

APRIL/MAY 2025

**23UEBT22 — FUNDAMENTALS OF
MICROBIOLOGY (ELECTIVE)**

Time : Three hours

Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. What is the spontaneous generation theory?
2. What are Koch's postulates?
3. What is the principle and applications of LCB mounting?
4. Differentiate Gram-positive and Gram-negative bacteria.
5. What is moist heat sterilization?
6. List out the names of two ESBL-producing microorganisms.
7. List out the LAB organisms involved in the yogurt production.



8. What is the mechanism of action of bioinsecticides?
9. What is the pathogenesis of Amoebiasis?
10. Differentiate Dengue and Malaria.

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Illustrate the Whittaker's five kingdom concept.

Or

- (b) Explain the classification of fungi.

12. (a) Briefly describe the microbial culture media with an example.

Or

- (b) Write short notes on microbial preservation methods.

13. (a) Give an account of chemical sterilization methods.

Or

- (b) How was antibiotic resistance formed in the microorganisms? Explain in a detailed manner.

14. (a) List out the names of four prebiotics. How prebiotics help gut health.

Or

- (b) Give a brief outline about biofertilizers.

15. (a) Explain the pathogenesis, clinical manifestation, and treatment of Influenza infection.

Or

- (b) Demonstrate the preventive measures of STD infections.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Write an essay on the scope of microbiology.
17. Give a detailed account of the bacterial growth curve and measurement of growth.
18. List out the β -Lactam group of antibiotics and explain its mode of action.
19. What is Single Cell Protein (SCP)? Explain its large-scale production and applications.
20. Write an essay on food-borne shigellosis infection.

